Robert R. Dobos National Soil Survey Center Lincoln, NE May 13, 2009

- Recognize the limiting effects of gypsum in soils soils
- Establish a framework of interpretive criteria quantifying the degree of limitation to land use
- Devise a methodology to handle the null data fields associated with highly gypsiferous soils
- Revise National and Standard interpretations

- Subsidence
- Corrosion of concrete and steel
- Piping
- Dust

- Interpretive model assumes differential subsidence and the dissolution of all of the gypsum in the profile
- Wall is assumed to be 10m
- If predicted subsidence is:

Less than 3cm not limited;

3 to 18cm somewhat limited;

Greater than 18cm severely limited

- Presence of gypsum, some sources as low as 2 percent for concrete
- Assume water is present due to altered hydrology
- Perhaps other variables not needed at this point?

Parameters for gypsum content set at:

Less than 5% 5 to 25% Greater than 25%

Not limited
Somewhat limited
Severely limited

 A dust subrule includes a gypsum content component

Parameters for gypsum are:

Less than 2% Not limited

2 to 15% Somewhat limited

Greater than 15% Severely limited

- Needed to overcome the lack of primary characteristic data, such as sieves, sand, silt, clay, and associated characteristics, like liquid and plastic limit
- Some layers in a component will have data to interpret and others may not
- Some layer data are conditionally null, or in other words, allowed to be null when certain conditions are met, such as very high gypsum content
- All property scripts which might touch the missing data needed to be modified to allow the "conditional null"

- 85 National and Standard interpretations were modified to be able to return a valid result when the conditional null is encountered.
- These are currently on the NSSC Data NASIS site, where they can be run using the NSSC Pangaea "INTERP Portrait Table" report

- Dwellings with Basements
- Dwellings without Basements
- Small Commercial Buildings
- Local Roads and Streets
- Unpaved Local Roads and Streets

- Unpaved Local Roads and Streets
- Camp Areas
- Paths and Trails
- Picnic Areas
- Playgrounds
- Lawn, Landscape, and Golf Fairway
- Basically, any earth disturbing interpretation

- What are local regulations?
- Are there systems that work?

 Should soon see a National Bulletin asking for a review of this work



